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ABSTRACT

The Learning Research and Development Center at the University of Pittsburgh, as part of a consortium of 15 educational agencies, is the prime contractor for a project to design, conduct, and diffuse training programs for educational R & D personnel. Four training programs in the areas of curriculum development and the design and conduct of local educational change programs are under development and test. Each area includes one short term program (6-week institute) and one long term program (two or three years). This document--an introduction to the training program--is followed by five papers that focus on the program of training in the design and conduct of local educational change programs. (For three of these papers see EA 004 409-411.) The choice of these training programs for special attention was made with the considerations that (1) the payoff of educational innovation is found in improvements in local instructional programs and (2) the utilization of innovations is the responsibility of school systems viewed as the consumers of innovations usually developed elsewhere. (Author)

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RESEARCH TRAINING THROUGH A MULTIPLE SYSTEM CONSORTIUM: SIX PAPERS

1. The Pittsburgh-Based Project to Train Educational R&D Personnel. Glen Heathers

2. Methodological and Theoretical Bases for Designing Local Educational Change Programs. J. Todd Simonds and Theodora St. Lawrence

3. Making Local Change Programs Relevant to Students' Needs. John L. Morgan and Alfonzo Washington

4. The Design of Programs to Train Personnel to Develop and Conduct Programs of Local Change. Robert F. Nicely, Jr.

5. Individualizing Guidance and Training of Local Change Specialists. Hiawatha Fountain

6. Evaluation of Programs to Train Educational R&D Personnel. Jane P. Woodward and John L. Yeager

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THE PITTSBURGH-BASED PROJECT TO TRAIN EDUCATIONAL R&D PERSONNEL

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April, 1972

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THE PITTSBURGH-BASED PROJECT TO TRAIN EDUCATIONAL R&D PERSONNEL

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Introduction

The Learning Research and Development Center at the University of Pittsburgh is the prime contractor for a project to design, conduct, and diffuse training programs for educational R&D personnel. Since the central purpose of the project is to provide training that will impact as directly as possible on instruction in schools, the emphasis in training is on the development, diffusion, and utilization of innovations. Training in evaluation and research is offered as related to these three central concerns. The expanded R&D acronym reflecting this training emphasis is DDU/ER.

Other emphases built into the training programs reflect concerns for dealing with the most critical problems of American education, and for recruiting trainees who are members of minority groups and trainees having backgrounds in different disciplines.

The project is being conducted by a consortium of educational agencies. Fifteen organizations currently hold membership in the consortium. In addition to the Learning Research and Development Center and the University of Pittsburgh, the consortium includes the Pennsylvania Department of Education; a county education office; Research for Better Schools in Philadelphia; the Pennsylvania public school systems in Philadelphia, Pittsburgh, Avonworth, and Baldwin-Whitehall; Carnegie-Mellon University and Teachers College, Columbia University; the McGraw-Hill Book Company; WQED (an educational

television station); and two private educational R&D agencies--The American Institutes for Research and Applied Science Associates.

The training project began with a six-month design phase terminating in December 1970. The operational phase, beginning then, is expected to cover the three-and-a-half-year period terminating in July 1974, with continuing grants made on an annual basis.

During the summer and fall of 1971, four training programs were launched in two areas: curriculum development, and the design and conduct of local educational change programs. Each area includes one short-term program based in a six-week institute and one long-term program that is two or three years in length and offers either a sixth-year certificate or the doctorate. All the training programs are officially housed in the Department of Curriculum and Supervision at the University of Pittsburgh's School of Education. The development, conduct, and evaluation of the training programs is the responsibility of the project staff representing membership in the Learning Research and Development Center and departments of the University of Pittsburgh.

The present set of papers focuses on the programs of training in the design and conduct of local educational change programs. The choice of these training programs for special attention was made with two considerations in mind: (1) the pay-off of educational innovation is found in improvements in local instructional programs; and (2) the utilization of innovations is the responsibility of school systems viewed as the consumers of innovations that usually are developed elsewhere. To facilitate the appropriate choice and effective implementation of innovations by school systems, leadership is required from educational change specialists employed by external agencies or by school systems.

The short-term program on designing local change programs has been conducted initially with two trainee groups, each offered a different variant of the program that is specifically suited to the trainee group. One group of trainees held positions with professional educational organizations representing state education departments, R&D agencies, school systems, etc. The other group consisted of employees of community action agencies in Pittsburgh including the NAACP, Model Cities, and the Urban League. The first group represented the "educational establishment," while the second represented community concerns about education. The long-term program is being conducted with students recruited nationally whose experiences and interests cover both those of professional educators and those of students in different academic disciplines.

Positions and Roles of Local Educational Change Specialists

Many thousands of educators hold positions calling on them to take leadership in the design and conduct of innovative programs in the nation's schools. With most of these positions, leadership for change is a part-time function. This is particularly true of such positions within school systems as assistant superintendent for instruction, curriculum coordinator, department chairman, and building principal. Very often, selected teachers are freed from other duties to assume part-time leadership in change programs. State education departments employ large numbers of specialists with full-time responsibilities for fostering innovations in schools. Regional Educational Laboratories and private educational R&D agencies contain a considerable number of positions in leadership for change on a full-time or part-time basis. Many professors of education in universities also devote a part of their time

to consulting with schools to aid them in the design and conduct of innovative programs. The U.S. Office of Education presently is developing the role of Education Extension Agent with the intention of providing expert assistance in instructional innovation to all the nation's schools.

Needs for Training of Specialists in Local Educational Change

Several major studies of educational R&D manpower have highlighted the critical needs for trained personnel to provide leadership for innovation in schools across the country. Three studies meriting special attention are those by Clark and Hopkins, A Report on Educational Research, Development, and Diffusion Manpower, 1964-1974, (1969), by Gideonse, Educational Research and Development in the United States, (1969), and by Chase, The National Program of Educational Laboratories: Report of a Study of Twenty Educational Laboratories and Nine University Research and Development Centers (1968). All three studies found a serious lack of personnel having training suited to the requirements of current and prospective positions in the development, diffusion, and utilization of instructional innovations. According to Gideonse, "...manpower supplies are barely adequate to carry out the range of activities currently being supported in educational R&D..." Further: "The currently existing manpower development programs for educational R&D personnel appear to display insufficient scope for the range of roles required, and in any case to be far too small in terms of the number of trained personnel being turned out." (p. 186). Hopkins (1969), summarizing results of the Clark and Hopkins study, presented these key statements: "R, D, and D agencies will move operationally toward more conventional goals as a consequence of their use of untrained personnel;" and "Overwhelming

demand and a sharply limited supply of trained R, D, and D personnel will delay pursuit of creative solutions for an extended time;" and, until training needs are met, "...the R, D, and D fields will be characterized by a large number (12,000 to 27,000) of full-time, career-committed professionals, most of whom will be either untrained or undertrained." (p. 585-586). Chase concluded that most of the laboratories and centers he studied lacked the staff capabilities required to accomplish their missions and saw the need for increasing staff capabilities by hiring new personnel and by offering training programs to those already employed.

U.S. Commissioner of Education Marland (1971), in describing plans for a National Institute of Education, stressed the importance of developing a "delivery system" to bring successful innovations into the nation's schools. "Whatever sort of breakthrough we achieve in teaching and learning, it will be useless unless it is linked with a system for delivery that works." (p. 577). Obviously, the delivery system he refers to depends on adequately trained personnel to provide the needed leadership for designing and conducting local change programs. With respect to the adoption of innovations by school districts, Clark and Guba (1967) made this key recommendation: "Each district should identify internally or employ high-level personnel whose charge it is to serve as liaison between the district and outside change agencies, to mount and carry out demonstration and trial projects within the district, and to work with teachers and other personnel in the district who are engaged in installing and institutionalizing new programs and practices." (131).

Thus far, the surveys on R&D personnel and training needs have been at the most general level; they have not pinpointed the types of positions for

which trained personnel are most needed nor have they specified the competencies that are most critical and in short supply. The next phase in job and task analysis as related to training needs should address itself to these concerns. Meanwhile, the Pittsburgh project has made certain decisions both on empirical and rational bases as to the proper foci of training programs. These decisions have been made, first, on judgments about features of the various sorts of change programs school systems undertake, second on judgments about shortcomings of today's change programs, and third on judgments about the most important areas of competency that educational change specialists should possess to offer leadership with such change programs. These three matters are considered in the sections that follow.

Types of Local Educational Change Programs and Their Critical Features

The Pittsburgh project has developed a list of ten major types of local educational change programs. Admittedly, the types overlap considerably; many change programs are made up of two or more of the types combined. The ten types are the following:

1. Introducing a new instructional system (e.g., IPI, or an open classroom plan)

2. Introducing a new special program (e.g., Follow Through, Advanced Placement)

3. Changing the curriculum in one or more areas (e.g., adopting PSSC Physics)

4. Introducing new learning equipment (e.g., audiotapes or computer-aided instruction)

5. Introducing new learning facilities (e.g., an open-plan school building)

6. Introducing a new staff training program (e.g., sensitivity training of teachers)

7. Introducing a new organizational plan (e.g., cooperative teaching or nongrading)

8. Introducing a program in intergroup relations (e.g., a bi-racial council)

9. Introducing a program in school/community relations (e.g., a parent council)

10. Introducing changes in school system administration (e.g., an elective rather than appointive school board, or adding assistant principals)

With each of these types of change programs, critical determinants of their success involve the adequacy of the program design in relation to the relevance, power, efficiency, and feasibility of the intended changes; the adequacy of plans for implementing the program; provisions for evaluating the program's outcomes; and provisions for diffusion the program, if successful in its pilot tryout, throughout the school system. Since change programs always are introduced within complex, ongoing systems, it is vital that the program take into account the multiple features of the system that are affected by the changes being installed. For example, most change programs modify staff roles and call for both administrative changes and new staff training. Also, change programs always call for community education and, often, for new forms of community involvement.

Educational change specialists are needed to offer leadership in ensuring that school districts undertake appropriate change programs of the various types, and in ensuring that the design and conduct of programs meet the sorts of requirements indicated above.

Shortcomings of Current Educational Change Programs

An important way to identify critical training needs for specialists in local educational change is to analyze shortcomings of existing change programs. It is not sufficient to judge the effectiveness of the diffusion of innovations by the number of adoptions, the attitudes of participants in local adoptions,

or the continuation of the adoption beyond the initial trial period. These are merely quantitative criteria of change. What is needed are qualitative assessments of the designs of change programs, of program implementation, of program evaluation, and of diffusion of successful change programs throughout school systems.

A systematic study of Title III change programs prepared for the Subcommittee on Education of the Committee on Labor and Public Welfare of the United States Senate (Miller, 1967) revealed many weaknesses in the designs of the hundreds of funded programs that were analyzed. The study did not go beyond the assessment of program designs to include an assessment of program implementation, evaluation, and system-wide diffusion. However, the common failure of the program designs to make adequate provisions for implementation, evaluation, and diffusion makes a strong case for expecting parallel failures in the operational phases of the programs.

The writer's experience with a considerable number and variety of local educational change programs leads to these conclusions about common shortcomings characterizing them. (1) Many change program designs do not exhibit a clear and adequate relationship between the intended aims and the means provided for achieving them. For example, most local "nongraded" programs purport to individualize instruction but make provisions for individualizing only the pacing of student progress without attention to permitting students to choose learning tasks, or to employ different materials and procedures in accomplishing the tasks they undertake. (2) Very often, plans for change programs do not offer adequate and systematic procedures for program implementation. In particular, most plans do not provide for sufficient staff education to ensure that teachers are enabled to conduct instruction in ways that

implement the purposes of the change program in the actual conduct of instruction. (3) In the majority of instances, provisions for evaluating change programs are grossly inadequate. Lacks in evaluation apply equally to failures to provide for feedback data on program implementation and failures to provide for systematic assessment of relevant program outcomes. (4) Most commonly, innovative programs introduced in some schools and some classrooms, even when judged reasonably successful in the pilot tests, are not diffused into other schools and classrooms within the system. This is particularly true of change programs initiated with outside funding as in Title I or Title III.

Probably the most important fact about local innovative programs is that they seldom are fully implemented, even in initial pilot tests. Generally, the structural features of a change program are installed fairly well; this process demands mainly administrative decisions and arrangements. However, the heart of program implementation--placing the features of the program into effective operation--usually makes requirements beyond the capabilities of local program personnel. The fault very often lies in the lack of adequate provisions for staff training and supervision. Reports on projects to introduce innovations support the point being made; ordinarily such reports are essentially lacking in data on actual program implementation but, rather, relate features of the program design to measures of outcomes on the tacit (but incorrect) assumption that the program has been implemented fully.

These shortcomings in local educational change programs result from various factors: lacks of relevant knowledge, lacks in the needed support from personnel, lacks in required funds, etc. The essential point is that it is a task of educational change specialists within or outside the school

system to deal with such factors in providing leadership that ensures effectiveness in program design, implementation, evaluation, and diffusion.

Types of Competency Required by Educational Change Specialists

Three general areas of competency have been selected by the Pittsburgh project as foci for training educational change specialists. Training units are being developed and tested within these areas. The areas are: Knowledge Base, Problem-Solving Model for Designing and Conducting Change Programs, and Interpersonal Competencies.

Knowledge Base. A specialist in providing leadership for local educational change should have, at the outset, a specific knowledge of the major purposes or themes that underlie educational products or procedures. For example, he should possess a detailed working definition of individualized instruction, of student self-direction, and of mastery as a criterion of accomplishment of learning tasks. Likewise, by way of example, he should know specifically what is meant by teaching ideas rather than facts, by teaching competencies in enquiry (or problem solving), and by fostering a positive self-concept in students.

Next, the specialist should be competent in analyzing the particular relationships between major themes and the educational products or procedures that are intended to foster these themes in the schools. For example, he should be capable of analyzing and evaluating various approaches to individualizing instruction such as nongrading, IPI, open classroom plans, or independent study programs.

A leader in designing and conducting local change programs needs to know about schools, their instructional programs, their institutional

organization and functioning, and their community contexts. Further, he needs to know about change processes in educational institutions and how such changes can be influenced.

In addition, he needs a rich knowledge of sources of information about educational innovations such as ERIC, educational publications, and various educational R&D agencies. Utilizing such information calls, in addition, for skills in analyzing and evaluating it in relation to educational purposes, on the one hand, and means for attaining those purposes, on the other.

Problem-Solving Model. If the educational change specialist is to offer school systems expert help in designing and conducting change programs, it is essential that he possess problem-solving skills in performing the tasks involved in these functions. These skills relate to performing need analyses, to surveying resources available for meeting the needs identified, to analyzing and evaluating local resources and constraints as they relate to undertaking alternative change programs, to selecting an appropriate change program, to designing the selected change program, and to conducting the program through the processes of implementation, evaluation, and diffusion. Being expert in employing such a problem-solving model does not mean that the specialist himself should carry out the problem-solving process; rather, it means that he should be prepared to offer leadership in the process, working with the appropriate local personnel and employing effective interpersonal strategies.

Interpersonal Competencies. A leader's task is to provide capable leadership, working with those persons who are selected to take part in the change program. No educational change specialist will be effective in working with school system personnel unless he employs sound procedures of communication and group process within his role. Always he must work within the limits

imposed by the competencies and readinesses of local personnel. Often his role will call for skills in selecting and training individuals who will perform essential tasks in the design and conduct of change programs.

In developing the training programs, the three areas of competency outlined above are being made the focal concerns in building training units, in setting up practicum and internship experiences, and (with doctoral students) in planning for appropriate doctoral dissertation projects.

Reports by Other Participants in this Session

This introduction to the training program is followed by five papers that deal with different aspects of the programs to train educational change specialists. In order, these papers cover the following topics:

Theoretical Bases for Designing the Training Programs (Simonds-St. Lawrence)

Making Local Change Programs Relevant to Students' Needs (Morgan-Washington)

The Designs of the Training Programs (Nicely-Fountain)

Individualizing the Training (Fountain-Nicely)

Evaluating the Training Programs (Yeager-Cohick)

References

Chase, Francis S. The National Program of Educational Laboratories: Report of a Study of Twenty Educational Laboratories and Nine University Research and Development Centers. Washington, D.C., U.S. Government Printing Office, December 1968.

Clark, David L., and Guba, Egon G. "An Examination of Potential Change Roles in Education." In: National Education Association, Center for the Study of Instruction, Rational Planning in Curriculum and Instruction: Eight Essays. Washington, D.C., NEA, 1201 16th St. N.W., 1967.

Clark, David L., and Hopkins, John E. A Report on Educational Research, Development, and Diffusion Manpower, 1964-1974. Bloomington, Indiana: Indiana University Research Foundation, 1969.

Gideonse, Hendrik D. Educational Research and Development in the United States. Washington, D.C.: U.S. Government Printing Office, 1970.

Hopkins, John E. Educational R, D, and D: Manpower Projections and a Proposal. Phi Delta Kappan, 1969, 50, 584-586.

Marland, Sidney P., Jr. A New Order of Educational Research and Development. Phi Delta Kappan, 1971, 52, 576-579.

Miller, Richard I. (Ed) Notes and Working Papers Concerning the Administration of Programs Authorized under Title III of Public Law 89-10, The Elementary and Secondary Education Act of 1965. Washington, D.C.: U.S. Government Printing Office, 1967.